

Application Serial No. 10/572,725  
Reply to office action of July 23, 2008

PATENT  
Docket: CU-4700

**REMARKS/ARGUMENTS**

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Reconsideration is respectfully requested.

Claims 1-20 are pending before this amendment. By the present amendment, claims 1, 3-4, 8-9, 13-14 and 18-19 are amended. No new matter has been added.

In the office action (page 2), claim 20 stands rejected under 35 U.S.C. §112 as having insufficient antecedent basis. The applicants have subsequently amended claim 1 to introduce the claimed frequency synthesizer in which claim 20 depends. Therefore, the applicants believe that the insufficient antecedent basis for this rejection has been removed. Therefore, the examiner is respectfully requested to withdraw this rejection of claim 20.

In the office action (page 2), claims 1-15 and 17-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,089,032 (Hongo) in view of U.S. Patent No. 7,085,587 (Oono). The "et al." suffix is omitted in a reference name.

The applicants respectfully disagree and believe that the claims, as they now stand are in condition for allowance.

The applicants (representative Loren K. Thompson) conducted a brief telephone interview with the examiner (Ping Y. Hsieh) on August 7, 2008 where the applicants noted that the Hongo reference does not teach both an oscillator and a frequency synthesizer or a base band processor. The applicants further pointed out that Hongo does not teach controlling the various outputs of the oscillator, the receive amplifier, the receive mixer, the transmit mixer, the transmit amplifier, the amplification unit and the

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input resonant unit with the same frequency control signal. The examiner thanked the applicants for explaining the applicants' proposed claim and the examiner said he would consider these amended claims when the applicants submit their response.

The examiner's attention is respectfully directed to the newly added limitations or similar limitations in claims 1, 3, 8, and 13 of -- *a frequency synthesizer or a base band processor providing a frequency control signal* --.

The examiner's attention is also respectfully directed to the newly added or amended limitations or similar limitations in claims 1, 3, 8, and 13 of --*an oscillator for outputting a resonant frequency signal such that a frequency of the resonant frequency signal from the oscillator is controlled by the frequency control signal* --.

The examiner's attention is also respectfully directed to the amended independent claims 1, 3, 8 and 13 in which each of the claimed elements, such as the receive amplifier, the receive mixer, the transmit mixer, the transmit amplifier, the amplification unit and the input resonant unit have all been amended to more clearly indicate that these claimed elements are controlled by the frequency control signal provided from the frequency synthesizer.

Regarding Hongo, Hongo discloses a radio transmitting/receiving device that has "a frequency synthesizer part 140 and 141 which generates a number of frequencies by their switching to effectively share frequency channels assigned to the system" (Hongo col. 7, lines 6-9). However, as depicted in FIG. 2, Hongo is unlike the presently claimed application.

One difference between Hongo and the presently claimed invention is that the PLL 140,142 of Hongo is configured to send a signal only to the VCO 141,143. That is,

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no other components of Hongo receives that signal generated from the PLL 140, 142 other than the VCO 141, 143.

Another difference between Hongo and the presently claimed invention is that the MIXERs 123, 124 or 112 of Hongo are controlled only by that signal from the amplifier 122 and from the signal from the VCO 141, 143. This is different from the presently claimed application because the presently claimed application requires that the resonant frequency of the receive mixer, the transmit mixer and the oscillator must all be controlled by the same frequency control signal.

Yet another difference between Hongo and the presently claimed invention is that the high frequency amplifier 122 of Hongo receiving the radio frequency signal from the antenna 151 is not configured to be controlled by the frequency control signal. This is different from the presently claimed application because the presently claimed application requires that the resonant frequency of the receive amplifier as well as of the oscillator must both be controlled by the same frequency control signal.

Still yet another difference between Hongo and the presently claimed invention is that the intermediate frequency amplifier (PGA) 125 of Hongo is not configured to be controlled by the frequency control signal. This is different from the presently claimed application requires that the resonant frequency of the transmit amplifier and the oscillator must both be controlled by the same frequency control signal.

Therefore, the Hongo does not teach or suggest all of the limitations of the presently claimed application.

Regarding Oono, Oono is also different than the presently claimed invention. The office action uses Oono only to disclose a direct conversion system for directly

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down-converting a received signal to a baseband signal (I/Q). In contrast to the presently claimed invention, Oono discloses a signal processing semiconductor integrated circuit device and wireless communication system that directly down-converts a received signal to a baseband signal (I/Q) of a voice frequency to achieve demodulation. In particular, the Oono reception-system circuit 110 comprises a low noise amplifier (LNA or 112) which amplifies a received signal; a mixer (MIX 113) which combines the amplified received signal with a local oscillation signal whose frequency is divided into the same frequency as the received signal which directly down-converts it into a voice frequency baseband signal and demodulates it; a high gain programmable gain amplifier unit (PGA 115) having low-pass filters (LPF) that amplifies the signal to predetermined levels; an auto calibration circuit 117 which effects DC offset calibration of the PGA 115; a controller 118 which effects operational control on the receptor-system circuit based on a command; and a transmission-system circuit 130 (col. 6, lines 7-23). Accordingly, Oono is also silent, *inter alia*, with regards to any mention at all to a resonant frequency signal controlling the various outputs of the various claimed elements such as the oscillator, the receive amplifier, the receive mixer, the transmit mixer, the transmit amplifier, the amplification unit and the input resonant unit.

Therefore, combining Oono with Hongo does not cure the above noted deficiencies of Hongo in replicating the presently claimed invention. Therefore, the applicants submit that Hongo and Oono, in whole or in combination do not teach, suggest or disclose the presently claimed invention. Since it is well settled that the combined prior art references must teach or suggest all of the limitations to render a claimed invention obvious, then the examiner is respectfully requested to withdraw this

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rejection.

In the office action (page 5), claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hongo in view of Oono and further in view of U.S. Patent No. 7,299,018 (Van Rumpt).

The applicants respectfully disagree and believe that claim 16 is in allowable form.

The above comments Hongo and Oono are equally applicable here, in that the above cited limitation or similar limitations have already been found shown to be absent from Hondo and Oono.

Regarding Van Rumpt, the applicants believe that Van Rumpt is also different from the presently claimed invention. The office action uses Van Rumpt to only disclose a LC tank including a capacitor controlled by a digital frequency control signal, a capacitor controlled by the analog frequency control signal and a fixed capacitor. In contrast to the presently claimed invention, Van Rumpt discloses a RF input filter having a digitally controlled capacitor bank with n number of capacitors being controlled by a tuning control signal for varying the tuning frequency of the RF input filter within a tuning range (Van Rumpt Abstract, FIG. 1A, 3 and 7). Van Rumpt is also silent, *inter alia*, with regards to a resonant frequency control signal controlling the oscillator, the receive amplifier, the receive mixer, the transmit mixer and the transmit amplifier. Therefore, Van Rumpt does not teach or suggest all of the limitations of the presently claimed invention. Accordingly, combining Van Rumpt with Hondo and Oono does not cure the above-noted deficiency of Hondo and Oono in replicating the presently claimed

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invention.

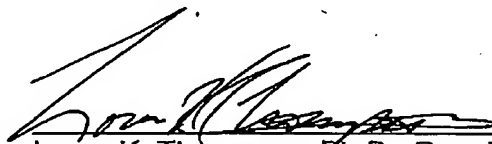
Therefore, the applicants submit that Hondo, Oono and Van Rumpt, in whole or in combination, do not teach, suggest or disclose, *inter alia*, the above cited limitation or similar limitations as required in independent claim 13. Accordingly, the examiner is respectfully requested to withdraw this rejection to claim 16 which depends upon claim 13.

For the reasons set forth above, the applicants respectfully submit that claims 1-20, now pending in this application, are in condition for allowance over the cited references. Accordingly, the applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

Dated: SEPTEMBER 5, 2008



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